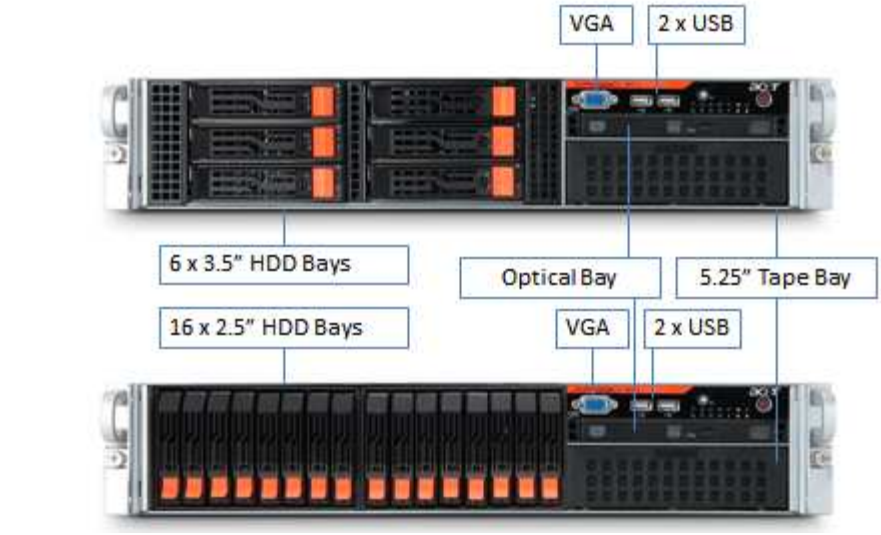
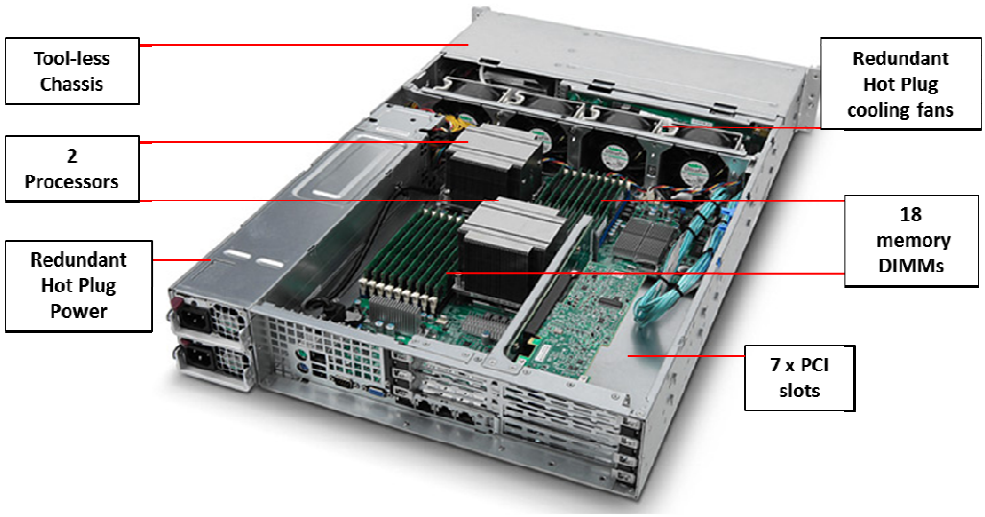
AR380 F1 Product Overview

The Acer AR380 F1 is a dual socket 2U server for space-conscious users who demand the highest performance, maximum expansion and the utmost reliability.

Product Front View



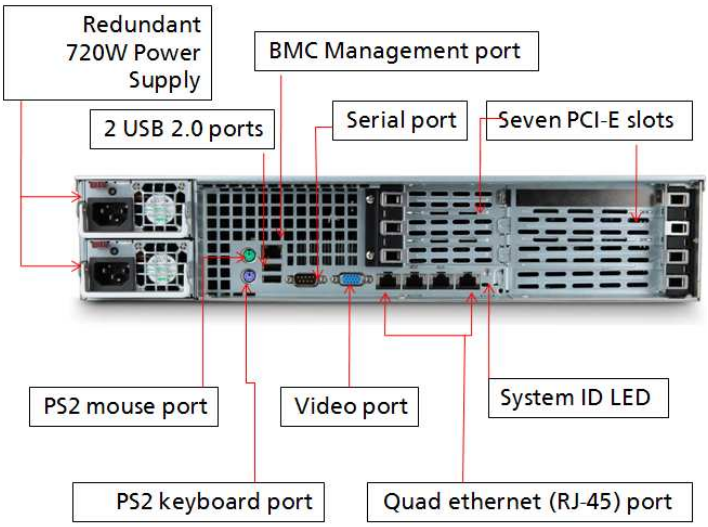


Product Inside View

1. 18 x ECC DDR3 1066/1333 MHz registered or unbuffered memory slots
2. 2 x Intel® Xeon® 5600 series processors supporting up to 6-cores per processor
3. 2 x 720 W 80 PLUS® gold-level efficient hot-swap power supplies (1+1 redundant)
4. Hot-plug redundant system cooling fans
5. 2 x USB 2.0 Front-mounted connectors
6. Power button, System ID button, LED indicators (Power, HDD activity, LAN 1-4 status, system ID/status/fault), video port
7. Support for up to sixteen 2.5" or six 3.5" hot-plug SATA or SAS hard disk drives
8. 1 x Slim-line Optical drive bay and 1 5.25" Tape drive bay

9. 7 x PCI Express® slots with risers

Product Rear View



1. PS2 keyboard connector
2. PS2 mouse connector
3. 2 x USB 2.0 connectors
4. Management IPMI LAN connector
5. COM (Serial) connector
6. Video connector
7. 4 x Gigabit LAN connectors
8. ID LED

What's New

- New Intel® Xeon® 5600 Series processors
- 2 x 720 W 80PLUS® gold-level efficient power supply units (1+1 redundant, hot-pluggable)
- DDR3 memory

Product Specifications

Processors and Chipset

- Up to two Intel® Xeon® 5600 series processors
- Chipset: Intel® 5520

Memory[1]

- Memory capacity:
  - Registered DIMM: 2, 4, 8, 16 GB[2]
  - Unbuffered DIMM: 2, 4 GB
- Up to 192 GB registered DIMMs when fully populated with 2 DIMMs per channel in 12 slots

[1] Mixed use of registered memory and unbuffered ECC memory not supported.
[2] 16 GB memory modules available by special request only.

- Up to 48 GB unbuffered DIMMs when fully populated with 2 DIMMs per channel in 12 slots

Network Controllers
- 2 X Integrated Intel® 82576EB dual-port Gigabit Ethernet Controller (4 ports total)

Storage
- Hard disk form factor: 2.5” or 3.5”
- Type: SAS/ SATA/ SSD with hot plug capability
- HDD Capacity (enterprise level):
  - 3.5” SAS HDD capacity: 300 GB, 450 GB, 600 GB
  - 3.5” SATA HDD capacity: 250 GB, 500 GB, 1TB, 2TB
  - 2.5” SAS HDD capacity: 73 GB, 146 GB, 300 GB, 450 GB, 600 GB
  - 2.5” SATA HDD capacity: 150 GB, 300 GB, 500 GB
  - 2.5” SSD capacity: 32 GB and 64 GB
- 3.5” Maximum capacity:
  - Up to 12 TB SATA (2 TB 3.5" x 6 HDDs)
  - Up to 3.6 TB SAS (600 GB 3.5” x 6 HDDs)
- 2.5” Maximum capacity:
  - Up to 8 TB SATA (500 GB 2.5" x 16 HDDs)
  - Up to 9.6 TB SAS (600 GB 2.5” x 16 HDDs)

Storage Controllers
- Integrated Intel® ICH10R Serial ATA host controller (six 3 Gb/s SATA ports) with RAID 0, 1, 5, 10 support
- Optional PCIe® 4-port/8-port and 16-port 6Gb/s SAS RAID card (standard on some models)

Expansion slots
- One full height PCI-E 2.0 x16 slot (with x8 link; left)
- Two full height PCI-E 2.0 x8 slots (with x4 link; left)
- Three low profile PCI-E 2.0 x8 slots (with x4 link; right)
- One Acer Flex I/O (PCI-E 2.0 x8) slot (left)

Management
- Acer Smart Server Manager
- System ID LED buttons, System Health LED
- Acer Smart Console for server management and KVM over IP remote management

Deployment/Serviceability
- Acer Smart Setup
- BIOS Update Tool
- IPMI Firmware Update Tool

Operating Systems
- Windows Server® 2008
- Windows Server® 2008 R2
- Windows Server® 2003
- Red Hat® Enterprise Linux 5.4
- SuSE® Linux Enterprise Server 11
- VMware ESXi™ 4
- VMware ESX™ 4

Input/output interface

Front

- One Power/off button
- LED indicators: power, HDD activity, LAN port 1 through 4, and ID
- Two USB 2.0 ports
- One VGA port

Rear

- PS2 keyboard port
- PS2 mouse port
- Two USB 2.0 ports
- Four RJ-45 ports (quad Gigabit NIC) with activity and link indicators
- RJ-45 port (dedicated for management NIC) with activity and link indicators
- Serial (DB-9) port
- SVGA (DB-15) port
- ID LED

Optical drive

- Slim-line SATA DVD/RW
- Optional 5.25” tape drive

Chassis/Form Factor

- 2U rack optimized

Power Supply

- 1 Power Supply Standard, 2nd optional
- Up to 2 x 720 W 80 PLUS® Gold-level efficient hot-swap power supplies (1+1 redundant)

Regulatory Compliance Standards

EMC

- FCC (Class A)
- CE (Class A)
- BSMI (Class A)

Safety

- UL/cUL
- CB
- Nemko/GS

Technical Specifications

Dimensions (with bezel)	438.4 (W) x 705 (D) x 88.1 (H) mm (17.3 x 27.8 x 3.5 inches)	
Form factor	2U rack optimized	
Weight (approximate)	Maximum (All component slots and sockets fully populated)	39 kg (88.1 lbs)
	Minimum (One HDD, power supply, and processor installed)	28.5 kg (62.8 lbs)
BTU rating	Maximum	3276 BTU/hr
System inlet temperature	Operating	10°- 35°C (50°- 95°F) at sea level wi th an altitude derating of 1°C per 305 m (1.8°F per 100 0 ft.) above sea level to a maximum of 3050 m (10,000 ft.) no direct sustained sunlight. Maximum rate of change is 10℃/hr (18℉/hr). The upper limit depends on the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30℃ (86℉).
	Non-operating	-40°- 70°C (-40°- 158°F) Maximum rate of change is 20℃/hr (36℉/hr).
Relative humidity (non-condensing)	Operating	8 - 90 % relative humidity (Rh), 28°C (8 2.4°F) maximum wet bulb temperature, non-condensing
	Non-operating	5 - 95 % relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing
Acoustic noise	Listed are the declared A-weighted sound power levels (LWAd) and declared average bystander position A-weighted sound pressure levels (LpAm) when the product is operating in a 21°C ambient environment. Noise em issions were measured in accordance with ISO 7779.	
	Idle	LWAd: 6.4 BA / LpAm: 45.8 dBA
	Operating	LWAd: 7.2 BA / LpAm: 53.6 dBA
Emissions classification (EMC)	FCC rating	Class A
	Normative standards	EN55022, EN 61000-3-2, EN 61000-3-3, CISPR 22 Class A
Power supply	Rated Steady –state power	720 W
	Maximum Peak Power	728 W

Standard Features

Processors

Intel® Xeon® Six-Core processor

X5675 (12 MB L3 cache, 3.06 GHz, 6.4 GT/s, DDR3-1333 MHz, 95 W)
X5650 (12 MB L3 cache, 2.66 GHz, 6.4 GT/s, DDR3-1333 MHz, 95 W)
E5645 (12 MB L3 cache, 2.40 GHz, 5.86 GT/s, DDR3-1333 MHz, 80 W)

Intel® Xeon® Quad-Core processor

E5620 (12 MB L3 cache, 2.40 GHz, 5.86 GT/s, DDR3-1066 MHz, 80 W)
L5630 (12 MB L3 cache, 2.13 GHz, 5.86 GT/s, DDR3-1066 MHz, 40 W)
E5606 (8 MB L3 cache, 2.13 GHz, 4.8 GT/s, DDR3-1066 MHz, 80 W)

Chipset

Intel® 5520

Memory [3]	**Type**	DDR3 1066/1333 MHz registered memory DDR3 1066/1333 MHz unbuffered ECC memory
	DIMM sockets	18
	Capacity	Registered DIMM: 2 / 4 / 8 / 16 GB[4] Unbuffered ECC DIMM: 2 / 4 GB
	Maximum capacity	Registered DIMM: 192 GB Unbuffered DIMM: 48 GB
Memory protection	ECC, Mirroring, Lockstep Mode, x4/x8 SDDC	
Network controller	2 x Integrated dual Intel® 82576EB Gigabit Ethernet Controller (quad ports)	

[3] Mixed use of registered memory and unbuffered ECC memory not supported.
[4] 16 GB memory modules available by special request only.

Expansion slots

The primary I/O bus for the main board is PCIe® Gen2. The following table lists the characteristics of the PCI-E bus segments.

PCI express® Bus Segment Characteristics of PCI Express® Topology

Expansion Slot #	# of slots	Type	Bus Width[1]	Vol.	Con. Width	Location	Length
PCIe®	2	PCIe® Gen 2	x4	3.3V	x8	Left	Full height
PCIe®	1	PCIe® Gen 2	x8	3.3V	x16	Left	Full height
PCIe®	3	PCIe® Gen 2	x4	3.3V	x8	Right	Low profile
Acer Flex I/O	1	PCIe® Gen 2	x8	3.3V	x8	Left	

NOTE:

1. *"Bus Width" refers to the number of physical electrical lanes running to a PCIe® connector.*
2. *Default bus assignment (in decimal). Inserting cards with PCI™ bridges may alter the actual bus assignment number.*
3. *Slots are enumerated differently based on the operating system. Microsoft® operating systems enumerate Device ID by bus starting from the lowest bus to the highest.*

Storage controller	Intel® 82801JR (ICH10R) I/O Controller Hub	
Integrated Serial ATA controller	**Simultaneous drive transfer channels**	6 channels
	Transfer rate synchronous (maximum theoretical)	3 GB/s per channel
	Data transfer method	non-RAID mode RAID mode
	Drive support	Serial ATA
	Data transfer modes	Legacy mode Combined mode
	Protocol	Serial ATA
	Feature	NCQ (Native Command Queuing) AHCI (Advanced Host Controller Interface)
	RAID levels supported	0, 1, 5, 10
	RAID features	• Supports multiple logical volumes • Supports setup through ROM based array configuration utility installation scripting **NOTE**: This controller requires the software RAID driver to support hot-plug functions.
	RAID OS support	Windows Server® 2008 Windows Server® 2008 R2 Red Hat® Enterprise Linux 5.4 SuSE® Linux Enterprise Server 11

Two Embedded dual-port Gigabit server adapter (Intel® 82576EB) quad port total	**Network interface**	10Base-T 100Base-TX 1000Base-TX	
	Compatibility	IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 802.3u 100Base-TX	
	Data transfer method	Four lane (x4), 100 MHz PCI Express reference clock	
	Network transfer rate	10Base-T (half-duplex)	10 Mb/s
		10Base-T (full-duplex)	20 Mb/s
		100Base-TX (half-duplex)	100 Mb/s
		100Base-TX (full-duplex)	200 Mb/s
		1000Base-TX (half- and full-duplex)	2000 Mb/s
	Connector	RJ-45	
	Cable support	CAT 5e wire	
	Virtualization acceleration	Intel® I/O Acceleration Technology Virtual Machine Device Queues (VMDq) PCI-SIG® SR-IOV implementation	
	Manageability	NC-SI SMBus, PXE, iSCSI boot	

Storage

Maximum internal storage	**Hard disk drive**	• Up to 6 hot-pluggable 3.5" SATA/SAS HDD • Up to 16 hot-pluggable 2.5” SATA/SAS/SSD HDD
	3.5” Maximum capacity	• Up to 12 TB SATA • Up to 3.6 TB SAS
	2.5” Maximum capacity	• Up to 8 TB SATA • Up to 9.6 TB SAS • Up to 1 TB SSD

Drive Support – Optical and Hard Disk Drive

Optical Drive Support

Drive	Quantity Supported	Bay Supported	Required Controller
Slim type SATA DVD/RW Optical Drive	Up to 1	A	Integrated SATA controller

Hard Disk Drive Support

Drive	Quantity Supported	Bay Supported	Required Controller
2.5” SATA/SAS/SSD hard drives	Up to 16	0 - 15	Integrated SATA controller for up to 4 SATA HDD’s 4-port SAS RAID card for up to 4 SAS/SATA/SSD HDD’s* 8-port SAS RAID cards for up to 8 SAS/SATA/SSD HDD’s** 16-port SAS RAID card for up to 16 SAS/SATA/SSD HDD’s
3.5” SATA/SAS hard drives	Up to 6	0 - 5	Integrated SATA controller for up to 4 SATA HDD’s 4-port SAS RAID card for up to 4 SAS/SATA/SSD HDD’s* 8-port SAS RAID card for up to 6 SAS/SATA HDD’s**
*standard on some models. **NOTE:** Transfer rates of drives are dependent on the maximum transfer rate supported by the host bus adapter (HBA) or controller.			

Tape Backup Drive Support

Drive	Bay Supported	Required Controller
LTO-3 1U SAS Rackmount (external) Tape Drive kit	External	SAS card
LTO-4 1U SAS Rackmount (external) Tape Drive kit	External	SAS card
160/320 GB, DAT320, 5.25”, internal half height, USB interface	B	Internal USB 2.0 ports
80/160 GB, DAT160, 5.25”, internal half height, USB interface	B	Internal USB 2.0 ports
36/72 GB, DAT72 (DDS Gen-5), 5.25”, internal half height, USB interface	B	Internal USB 2.0 ports

Graphics

BMC chip embedded
- 1280 x 1024
- 16 M colors
- 16 MB video memory

Industry standard compliance

IPMI 2.0 Compliant (iBMC)
APM 1.2 compliant
SMBUS 2.0
SMBIOS 2.61 compliant
ACPI v3.0b Compliant
PCI-E 1.1 for Gen 1 and PCI-E 2.0 for Gen 2
PXE 2.1 support
TPM cer1.2 compliance (through optional module)
WOL support
Microsoft Windows® Hardware Logo Program Requirements

Security

HDD carrier mechanical lock
Administrator / User password
Set-up password
Removable device boot control
Serial Interface control
TPM controller (TPM v1.2 Compliant) (manufacturing option)

System cooling

- 2 x CPU heat sinks supporting Intel® Xeon® processors with up to TDP 95 W
- Redundant/hot pluggable system fans (w/PWM control)

Operating systems and virtualization software support

Windows Server® 2008
Windows Server® 2008 R2
Windows Server® 2003 R2
Red Hat® Enterprise Linux 5.4
SUSE® Linux Enterprise Server 11
VMware ESXi™ 4
VMware ESX™ 4

Server Management Utilities and Applications

Comprehensive management solutions deliver powerful and intuitive management features to simplify server set ups, configuration, management, monitoring, and reporting for the entire lifecycle of servers. Centralized administration and automatic management with remote access control free the IT resources and meet the complex business environment. Proactive monitoring and notification lead higher customers' satisfaction and higher levels of operational efficiency.

Smart Setup 2.0	Easy deployment via the latest version of Acer's Smart Setup. Smart Setup is available both in box as a driver packed installation DVD or a downloadable file to be put into a USB 2.0 device, and eases the deployment of Acer servers for any certified OS. Through its unique interface, users may select to have all the correct drivers be pre-deployed for the OS of their choosing, as well as setup hardware RAID devices, BMC settings (where available), and even clone the pre-settings to a bootable USB device to ease mass server deployments.
Smart Console	Web-based management utility to simplify system management with embedded iBMC, system monitoring and alerting, event handling, remote power control and KVM-over-IP. Smart Console is OS independent and offers virtual media through floppy, ODD, and removable disk.
Smart Server Manager v1.1	Offering 24-7 monitoring for system health and performance. Delivers proactive event management features including system event logging, event handling from e-mail and SNMP Trap (PET) alerting. Monitors onboard hardware, operating systems and virtual machines Allows remote control from KVM and Power control Satisfies management in web-based UI, role-based administration, and automated management scripts.
Intelligent manageability	• Automatic Server Recovery (ASR) • Integrated Management Log • Front and Rear Unit ID (UID) button/LED • BIOS Update tool for DOS supporting DOS and Windows OS • IPMI Firmware Update tool supporting DOS and Windows OS • Backplane firmware update tool, supporting DOS and Windows OS
Environment-friendly products and approach	Acer offers end-of-life product return, trade-in, and recycling programs in many geographic areas. Products returned to will be recycled, recovered or disposed of in a responsible manner.

Memory Support Specification

Registered Type	DDR3 1066/ 1333 MHz	
	Capacity:	2, 4, 8, 16 GB
	Voltage:	1.5 V
	Maximum: 192 GB (16 GBx12 DIMMs)	
Unbuffered Type	DDR3 1066/ 1333 MHz	
	Capacity:	2, 4 GB
	Voltage:	1.5 V
	Maximum: 48 GB (4 GB x 12 DIMMs)	
Memory protection	ECC, Mirroring, Sparing, Lockstep Mode, x4/x8 SDDC	

Note: Mixing of registered memory and unbuffered ECC memory is not supported.
16 GB memory modules available by special request only.

Memory Population

The systems have eighteen DIMM slots. Each CPU controls nine slots. The DIMM slots support DDR3-1333 registered/unbuffered ECC memory modules. For single rank and dual rank RDIMM the system supports a maximum of 3 DIMMs per channel and a total of 18 DIMMs can be supported. For UDIMM and quad rank RDIMM, the system supports 2 DIMMs per channel and a total of 12 DIMMs can be supported.

- Each CPU has three memory channels (channel 1, 2 and 3).
- Each channel has 3 slots.

To maximize the memory performance, the DIMM modules should be installed as balanced as possible among processors and memory channels. Slots with the same slot number across memory channels should be populated with identical DIMMs.

Independent mode (please refer to the User Guide for more information)

- In this mode all memory is accessible and ECC protected

Single processor configuration

No. of DIMMs	P1 DIMM 1C	P1 DIMM 1B	P1 DIMM 1A	P1 DIMM 2C	P1 DIMM 2B	P1 DIMM 2A	P1 DIMM 3C	P1 DIMM 3B	P1 DIMM 3A
1			X						
2			X			X			
3			X			X			X
4		X	X		X	X			
6		X	X		X	X		X	X
9*	X	X	X	X	X	X	X	X	X

* Single Ranked(SR)/Double Ranked(DR) RDIMM only

Total Memory	P1 DIMM 1C	P1 DIMM 1B	P1 DIMM 1A	P1 DIMM 2C	P1 DIMM 2B	P1 DIMM 2A	P1 DIMM 3C	P1 DIMM 3B	P1 DIMM 3A
2GB			2GB						
4GB			2GB			2GB			
6GB			2GB			2GB			2GB
8GB		2GB	2GB		2GB	2GB			
12GB		2GB	2GB		2GB	2GB		2GB	2GB
18GB	2GB	2GB	2GB	2GB	2GB	2GB	2GB	2GB	2GB
4GB			4GB						
8GB			4GB			4GB			
12GB			4GB			4GB			4GB
16GB		4GB	4GB		4GB	4GB			
24GB		4GB	4GB		4GB	4GB		4GB	4GB
36GB	4GB	4GB	4GB	4GB	4GB	4GB	4GB	4GB	4GB
8GB			8GB						
16GB			8GB			8GB			
24GB			8GB			8GB			8GB
32GB		8GB	8GB		8GB	8GB			
48GB		8GB	8GB		8GB	8GB		8GB	8GB
*16GB**			*16GB*						
*32GB**			*16GB*			*16GB*			
*48GB**			*16GB*			*16GB*			*16GB*
*64GB**		*16GB*	*16GB*		*16GB*	*16GB*			

Total Memory	P1 DIMM 1C	P1 DIMM 1B	P1 DIMM 1A	P1 DIMM 2C	P1 DIMM 2B	P1 DIMM 2A	P1 DIMM 3C	P1 DIMM 3B	P1 DIMM 3A
*96GB**		*16GB*	*16GB*		*16GB*	*16GB*		*16GB*	*16GB*

** 16 GB memory modules available by special request only*

Dual processor configuration

	CPU1									CPU2								
No. of DIMMs	P1 1C	P1 1B	P1 1A	P1 2C	P1 2B	P1 2A	P1 3C	P1 3B	P1 3A	P2 1C	P2 1B	P2 1A	P2 2C	P2 2B	P2 2A	P2 3C	P2 3B	P2 3A
2			X									X						
4			X			X						X			X			
6			X			X			X			X			X			X
8		X	X		X	X					X	X		X	X			
9		X	X		X	X		X	X			X			X			X
12		X	X		X	X		X	X		X	X		X	X		X	X
18*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

*Single Ranked (SR)/Double Ranked (DR) RDIMM only

	CPU1									CPU2								
Total Memory	P1 1C	P1 1B	P1 1A	P1 2C	P1 2B	P1 2A	P1 3C	P1 3B	P1 3A	P2 1C	P2 1B	P2 1A	P2 2C	P2 2B	P2 2A	P2 3C	P2 3B	P2 3A
4GB			2									2						
8GB			2			2						2			2			
12GB			2			2			2			2			2			2
16GB		2	2		2	2					2	2		2	2			
18GB		2	2		2	2		2	2			2			2			2
24GB		2	2		2	2		2	2		2	2		2	2		2	2
36GB	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8GB			4									4						
16GB			4			4						4			4			
24GB			4			4			4			4			4			4
32GB		4	4		4	4					4	4		4	4			
36GB		4	4		4	4		4	4			4			4			4
48GB		4	4		4	4		4	4		4	4		4	4		4	4
72GB	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
16GB			8									8						
32GB			8			8						8			8			
48GB			8			8			8			8			8			8
64GB		8	8		8	8					8	8		8	8			
72GB		8	8		8	8		8	8			8			8			8
96GB		8	8		8	8		8	8		8	8		8	8		8	8
144GB	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
*32GB**			*16*									*16*						
*64GB**			*16*			*16*						*16*			*16*			

Total Memory	P1 1C	P1 1B	P1 1A	P1 2C	P1 2B	P1 2A	P1 3C	P1 3B	P1 3A	P2 1C	P2 1B	P2 1A	P2 2C	P2 2B	P2 2A	P2 3C	P2 3B	P2 3A
*96GB**			*16*			*16*			*16*			*16*			*16*			*16*
*128GB**		*16*	*16*		*16*	*16*					*16*	*16*		*16*	*16*			
*144GB**		*16*	*16*		*16*	*16*		*16*	*16*			*16*			*16*			*16*
*192GB**		*16*	*16*		*16*	*16*		*16*	*16*		*16*	*16*		*16*	*16*		*16*	*16*

** 16 GB memory modules available by special request only.*

Mirroring mode:

- In mirroring mode, the memory contains a primary image and a copy of the primary image therefore the effective size of memory is reduced by one half.
- Channel 3 has no function in these modes.
- Follow the population rules described in independent mode.
- Mirroring mode needs the channel 1 & channel 2 DIMMs to be identical. DIMM slot populations within a channel do not have to be identical but the same DIMM slot location across channel 1 and channel 2 must be the same. DIMM1A and DIMM2A should be the same type, size and manufacturer. DIMM1B and DIMM2B memory should be the same type, size and manufacturer. DIMM1C and DIMM2C memory should be the same type, size and manufacturer.
- Same rules apply to CPU2.
- 3 DIMMs per channel configuration is only available for single/dual rank RDIMM.
- Please refer to the User Guide for complete population rules for both single and dual processor configurations.

Lockstep mode:

- In Lockstep Channel Mode, each memory access is 128-bit data access that spans Channel 1 and Channel 2. This is done to support SDDC for DRAM devices with 8-bit wide data ports. The same address is used on both channels such that an address error on any channel is detectable.
- Lockstep Channel mode is the only RAS mode that supports x8 SDDC.
- Channel 3 has no function in these modes.
- Follow the population rules described in independent mode.
- Lockstep mode needs the channel 1 & channel 2 DIMMs to be identical. DIMM slot populations within a channel do not have to be identical but the same DIMM slot location across channel 1 and channel 2 must be the same. DIMM1A and DIMM2A should be the same type, size and manufacturer. DIMM1B and DIMM2B memory should be the same type, size and manufacturer. DIMM1C and DIMM2C memory should be the same type, size and manufacturer.
- Same rules apply to CPU2.
- 3 DIMMs per channel configuration is only available for single/dual rank RDIMM.
- Please refer to the User Guide for complete population rules for both single and dual processor configurations.

Sparing mode:

- In sparing mode, if the system detects degrading memory, the data in the failed channel will be copied to the spare channel. The failed channel is then isolated and the spare channel becomes active. Any uncorrectable error detected before the isolation will cause the system to stop normal operation.
- Channel 3 is the spare channel. Therefore, the effective size will be reduced by one-third.
- Follow the population rules described in independent mode.
- Sparing mode needs all three channels to utilize identical DIMMs. 1A, 2A and 3A should be the same type, size and manufacturer. 1B, 2B and 3B memory should be the same type, size and manufacturer. 1C, 2C and 3C memory should be the same type, size and manufacturer.
- Same rule is applied to CPU2.
- 3 DIMMs per channel configuration is only available for single/dual rank RDIMM.
- Please refer to the User Guide for complete population rules for both single and dual processor configurations.

Memory Identification

Generally, there is memory information printed on the label of the DIMM, but different vendors may have different formats. For example:

4GB 2Rx4 PC3-10600R xx xx xxx

1. Density

- 2GB, 4GB, 8GB, 16GB
- Intel® Xeon® 5600 series processors support DIMMs organized by 1Gb, 2Gb or 4Gb DRAM chips

2. Rank

- 1R = Single Rank
- 2R = Dual Rank
- 4R = Quad Rank
- Note: if any quad rank DIMM is used, maximum only 2 DIMMs per channel can be supported

3. Bit Organization

- This platform supports x4 and x8
- Note: It is not recommended to mix DIMMs with different bit organizations in one system

4. Speed

- PC3 – 6400 => DDR3- 800
- PC3 – 8500 => DDR3- 1066
- PC3 – 10600 => DDR3- 1333

Power Supply Specification

720W Power Supply							
Operational Input Voltage Range (Vrms)	100 to 240 VAC						
Frequency Range (Nominal) (Hz)	50 / 60						
Nominal Input Voltage (Vrms)	**100**	**120**	**208**	**200**	**220**	**230**	**240**
Max. Rated Output Wattage	720	720	720	720	720	720	720
Nominal Input Current (A rms)	8.46	6.97	3.80	3.87	3.74	3.5	3.29
Max. Rated Input Wattage Rating (Watts)	846.0	836.4	790.4	774.0	822.8	805.0	789.6
Max. Rated VA (Volt-Amp)	837.54	828.03	774.59	758.52	806.34	788.9	773.81
Efficiency (%) at Max. Rated Output Wattage	88.12	89.49	90.95	90.74	91.51	91.92	92.27
Power Factor	0.99	0.99	0.98	0.98	0.98	0.98	0.98
Leakage Current (mA)	0.17	0.19	0.29	0.31	0.35	0.37	0.41
Max. Inrush Current (A peak)	17.24	19.41	18.52	16.88	16.48	20.47	22.54
Max. Inrush Current Duration (mS)	4.62	4.58	4.61	4.62	4.64	4.63	4.64
Max. British Thermal Unit Rating (BTU/hr)	2456.64	2456.64	2456.64	2456.64	2456.64	2456.64	2456.64

Hardware Key Options

CPU	• Intel® Xeon® 5600 series
HDD	• SAS 2.5”: 73 GB, 146 GB, 300 GB, 450 GB, 600 GB • SAS 3.5”: 300 GB, 450 GB, 600 GB • SATA 2.5”: 150 GB, 300 GB, 500 GB • SATA 3.5”: 250 GB, 500 GB, 1TB, 2 TB • SATA SSD 2.5”: 32GB, 64GB
Memory	• DDR3 1333 MHz Unbuffered ECC 2/ 4 GB • DDR3 1333 MHz Registered ECC 2/ 4/ 8/ 16 GB
SAS HBA	• SAS HBA, internal 2-ports/external 2-ports, PCI-E x1 interface
SAS RAID	• MegaRAID® SAS 9240-4i, 4 internal ports, PCIe x8, supporting RAID 0/1/10/5 • MegaRAID® SAS 9260-8i, 8 internal ports, 512 MB PCIe x8, supporting RAID 0/1/10/5/50/6/60 • MegaRAID® SAS 9260-16i, 16 internal ports, 512 MB PCIe x8, supporting RAID 0/1/10/5/50/6/60 • LSI® BBU07/ Battery Backup Unit for MegaRAID® SAS 9260-8i and 9260-16i
Networking	• Gigabit CT Desktop Adapter, Gigabit Adapter10/100/1000 Mbps • Gigabit ET Server Adapter, Gigabit 10/100/1000 Mbps, PCIe, dual-port • Gigabit ET2 Server Adapter, Gigabit Adapter 10/100/1000 Mbps, PCIe, quad-port • Ethernet Server Adapter X520-DA2, 10 Gb, Dual ports, direct attach • Ethernet Server Adapter X520-LR1, single port, LR • Ethernet Server Adapter X520-SR1, single port, SR • Ethernet Server Adapter X520-SR2, dual ports, SR
Fibre Channel HBA	• Qlogic SANblade® QLE2460 single port fibre channel to PCI express host bus adapter, 1 ch, 8 Gb FC HBA, PCIe x8, single LC port (std & low-profile bracket) • Qlogic SANblade® QLE2462 dual ports fibre channel to PCI express host bus adapter, 2ch, 8 Gb FC HBA, PCIe x8, dual LC port (std & low-profile bracket)

Server Additional Options/Accessories

TPM	• TPM module (TPM 1.2)
Optical Drive	• Slim-line (12.7 mm tray) DVD/RW
Flash Memory	• USB low-profile flash memory for VMware embedded
HDD cage/ backplanes	• 2.5” 8-bay HDD cage (std in some models, additional bay available to populate the system with 16 HDD’s) • 3.5” 6-bay HDD cage (std in some models)

Tape & Disk based backup	• LTO-3 1U SAS Rackmount (external) Tape Drive kit • LTO-4 1U SAS Rackmount (external) Tape Drive kit • 36/72 GB, DAT72 (DDS Gen-5), 5.25”, internal half height, USB interface • 80/160 GB, DAT160, 5.25”, internal half height, USB interface • 160/320 GB, DAT320, 5.25”, internal half height, USB interface
Rackmount kits	• Sliding rails (Cable Management Arm option available)
Riser cards	• Left-side riser for 2U server (included) • Right-side riser for 2U server (included)

Service and Support

Acer Servers offer a comprehensive service suite to take care of daily IT needs. Users can select the 3-year standard warranty or choose extended warranties and services[5].

The standard warranty for the AR380 F1 includes three years Parts coverage with the first year including Labor and On-Site coverage.

Warranty repairs may be accomplished through the use of Customer Replacement Unit (CRU) parts. CRU parts include: Hot Plug Hard Drives and Hot Plug Power Supplies. These parts are designed for easy replacement without tools. Travel and labor charges may apply if customers decline to replace a CRU part.

In a continuing effort to improve the quality of our products, information in this document is subject to change without notice. Images shown are only representations of some of the configurations available for this model. Availability may vary depending on region.

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[5] Extension warranty services may vary by country. Please contact Acer authorized resellers for more information.

Acer Standard Server Models	**Part Number**
Acer AR380 LFF Models	
Acer AR380F1 Xeon E5606, 1x4GB DDR3 Reg, no HDD, 6x3,5"HDD bay, 4 Port 6G SAS RAID Controller, DVD-RW, 1x720W 80+ Gold PSU (second optional), 4x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, UPS Power Cable, no Mouse, no KB, Rail kit (2U) Included	TK.R5300.090
Acer AR380F1 Xeon E5620, 2x4GB DDR3 Reg, no HDD, 6x3,5" HDD bay, 8 Port 6G SAS RAID Controller with 512MB Cache, DVD-RW, 1x720W 80+ Gold PSU (second optional), 4x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, UPS Power Cable, no Mouse, no KB,Rail kit (2U) Included	TK.R5300.085
Acer AR380F1 Xeon E5645, 2x4GB DDR3 Reg, no HDD, 6x3.5" HDD bay, 8 Port 6G SAS RAID Controller with 512MB Cache, DVD-RW, 1x720W 80+ Gold PSU (second optional), 4x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, UPS Power Cable, no Mouse, no KB, Rail kit (2U) Included	TK.R5300.092
Acer AR380 SFF Models	
Acer AR380F1 Xeon E5606, 1x4GB DDR3 Reg, no HDD, 8x2.5"HDD bay, 4 Port 6G SAS RAID Controller, DVD-RW, 1x720W 80+ Gold PSU (second optional), 4x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, UPS Power Cable, no Mouse, no KB, Rail kit (2U) Included	TK.R5300.089
Acer AR380F1 Xeon E5620, 2x4GB DDR3 Reg, no HDD, 8x2.5"HDD bay, 8 Port 6G SAS RAID Controller with 512MB cache, DVD-RW, 1x720W 80+ Gold PSU (second optional), 4x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, UPS Power Cable, no Mouse, no KB, Rail kit (2U) Included	TK.R5300.078
Acer AR380F1 Xeon L5630, 3x2GB DDR3 Unbuff, no HDD, 8x2.5" HDD bay,Onboard SATA, DVD-RW, 1x720W 80+ Gold PSU (second optional), 4x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, UPS Power Cable, no Mouse, no KB, Rail kit (2U) Included	TK.R5300.083
Acer AR380F1 Xeon E5645, 2x4GB DDR3 Reg, no HDD, 8x2.5" HDD bay, 8 Port 6G SAS RAID Controller with 512MB Cache, DVD-RW, 1x720W 80+ Gold PSU (second optional), 4x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, UPS Power Cable, no Mouse, no KB, Rail kit (2U) Included	TK.R5300.091
Acer AR380F1 Xeon X5650, 2x4GB DDR3 Reg, no HDD, 8x2.5" HDD bay, 8 Port 6G SAS RAID Controller with 512MB Cache, DVD-RW, 1x720W 80+ Gold PSU (second optional), 4x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, UPS Power Cable, no Mouse, no KB, Rail kit (2U) Included	TK.R5300.081
Acer AR380F1 Xeon X5675, 2x4GB DDR3 Reg, no HDD, 8x2.5" HDD bay, 8 Port 6G SAS RAID Controller with 512MB Cache, DVD-RW, 1x720W 80+ Gold PSU (second optional), 4x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, UPS Power Cable, no Mouse, no KB, Rail kit (2U) Included	TK.R5300.093

Acer Key Options	**Part Number**
Acer CPU Heatsink	
Note: one heatsink required for each processor option kit	
Acer Intel CPU heat-sink (TDP 95W supported) for 2U rack	TC.34900.004
Acer Processor upgrade kits	
Note: one heatsink required for each processor option kit	
Note: all processors in a system must match	
Acer Intel® Xeon® processor E5606 (B-1) Kit	TC.32500.041
Acer Intel® Xeon® processor E5620 (B-1) Kit	TC.32500.024
Acer Intel® Xeon® processor E5645 (B-1) Kit	TC.32500.037
Acer Intel® Xeon® processor L5630 (B-1) Kit	TC.32500.026
Acer Intel® Xeon® processor X5650 (B-1) Kit	TC.32500.022
Acer Intel® Xeon® processor X5675 (B-1) Kit	TC.32500.039
Acer Memory	
Note: cannot mix Unbuffered memory with Registered memory	
Note: please refer to "Memory Support" Section for details on configuring memory	
Acer Unbuffered Memory	
Acer 2GB DDR3-1333 Unbuffered Memory Kit (1 pc.)	TC.33100.035
Acer 4GB DDR3-1333 Unbuffered Memory Kit (1 pc.)	TC.33100.037
Acer Registered Memory	
Acer 2GB DDR3-1333 Registered Memory Kit (1 pc.)	TC.33100.029
Acer 4GB DDR3-1333 Registered Memory Kit (1 pc.)	TC.33100.031
Acer 8GB DDR3-1333 Registered Memory Kit (1 pc.)	TC.33100.042
Acer Storage	
Acer SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives	
Note: LFF drives are supported only on AR380 models with the 6x3.5" HDD Bay	
Acer 250GB 3Gb/s 7.2K 3.5-inch Enterprise SATA HDD Kit	TC.32700.068
Acer 500GB 3Gb/s 7.2K 3.5-inch Enterprise SATA HDD Kit	TC.32700.066
Acer 1TB 3Gb/s 7.2K 3.5-inch Enterprise SATA HDD Kit	TC.32700.064
Acer 2TB 3Gb/s 7.2K 3.5-inch Enterprise SATA HDD Kit	TC.32700.062
Acer SAS Hot Plug LFF (3.5-inch) Enterprise Drives	
Note: LFF drives are supported only on AR380 models with the 6x3.5" HDD Bay	
Acer 500GB 6Gb/s 7.2K 3.5-inch Enterprise SAS HDD Kit	TC.32700.108
Acer 1TB 6Gb/s 7.2K 3.5-inch Enterprise SAS HDD Kit	TC.32700.107
Acer 2TB 6Gb/s 7.2K 3.5-inch Enterprise SAS HDD Kit	TC.32700.106
Acer 300GB 6Gb/s 15K 3.5-inch Enterprise SAS HDD Kit	TC.32700.079

Acer 450GB 6Gb/s 15K 3.5-inch Enterprise SAS HDD Kit	TC.32700.077
Acer 600GB 6Gb/s 15K 3.5-inch Enterprise SAS HDD Kit	TC.32700.075

Acer SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives	
Note: SFF drives are supported only on AR380 models with the 8x2.5" HDD Bay	
Acer 150GB 3Gb/s 10K 2.5-inch Enterprise SATA HDD Kit	TC.32700.090
Acer 300GB 3Gb/s 10K 2.5-inch Enterprise SATA HDD Kit	TC.32700.088
Acer 500GB 3Gb/s 7.2K 2.5-inch Enterprise SATA HDD Kit	TC.32700.046
Acer 1TB 6Gb/s 7.2K 2.5-inch Enterprise SATA HDD Kit	TC.32700.091
Acer SAS Hot Plug SFF (2.5-inch) 10K Enterprise Drives	
Note: SFF drives are supported only on AR380 models with the 8x2.5" HDD Bay	
Acer 146GB 6Gb/s 10K 2.5-inch Enterprise SAS HDD Kit	TC.32700.083
Acer 300GB 6Gb/s 10K 2.5-inch Enterprise SAS HDD Kit	TC.32700.081
Acer 450GB 6Gb/s 10K 2.5-inch Enterprise SAS HDD Kit	TC.32700.072
Acer 600GB 6Gb/s 10K 2.5-inch Enterprise SAS HDD Kit	TC.32700.070
Acer 900GB 6Gb/s 10K 2.5-inch Enterprise SAS HDD Kit	TC.32700.104
Acer SAS Hot Plug SFF (2.5-inch) 15K Enterprise Drives	
Note: SFF drives are supported only on AR380 models with the 8x2.5" HDD Bay	
Acer 146GB 6Gb/s 15K 2.5-inch Enterprise SAS HDD Kit	TC.32700.085
Acer 300GB 6Gb/s 15K 2.5-inch Enterprise SAS HDD Kit	TC.32700.105
Acer SATA Hot Plug SFF (2.5-inch) Enterprise SSD Drives	
Note: SFF drives are supported only on AR380 models with the 8x2.5" HDD Bay	
Acer 32GB SLC SATA 2.5-inch Enterprise SSD Kit	TC.33900.003
Acer 64GB SLC SATA 2.5-inch Enterprise SSD Kit	TC.33900.004
Acer SAS Storage Controllers	
Acer 4-port 6Gb/s SAS RAID Adapter (w/ mSAS-mSAS cable) Kit	TC.32300.028
Acer 8-port 6Gb/s SAS RAID Adapter (w/ mSAS-mSAS cable) Kit	TC.32300.034
Acer 16-port 6Gb/s SAS RAID Adapter (w/ mSAS-mSAS cable) Kit	TC.32300.042
Acer Battery Backup Kit for Cache module in 8port/16port SAS RAID Card	TC.34800.006
Acer Redundant Power Supply	
Acer 720 W Power Supply Module (GOLD level)	TC.33600.005
Acer Fibre Channel Storage Controllers	
Acer 8Gb/s Single Port Fibre Channel HBA Kit	TC.32300.024
Acer 8Gb/s Dual Port Fibre Channel HBA Kit	TC.32300.026
Acer Tape Drives	
Acer 36/72GB, DAT72 (DDS Gen-5), 5.25", internal, half-height, default USB cable	TC.34000.026
Acer 80/160GB, DAT160, 5.25", internal, half-height, interface USB, default USB cable	TC.34000.028

Acer 160G/320G ,DAT 320, 5.25" Internal Half-Height ,Interface USB, default USB cable	TC.34000.030

Acer External Tape Drives	
Acer LTO-3/LTO-4 1U Rack mount (ext.) Chassis Kit	TC.34000.040
Acer LTO-3 HH (int.) Tape Drive Kit - Compatible with Acer Servers which support Internal LTO drives (or) 1U external Rackmount chassis kit	TC.34000.022
Acer LTO-4 HH (int.) Tape Drive Kit -Compatible with Acer Servers which support internal LTO drives (or) 1U external Rackmount chassis kit	TC.34000.024
Acer Additional Upgrades	
Acer 8-bay 2.5-inch Hot-plug HDD Cage Kit	TC.32800.006
Acer Cable Management Arm (2U/4U) Kit (1000mm Rack required)	TC.33700.021
Acer Gigabit Single Port LAN Adapter Kit	TC.32200.011
Acer Gigabit Dual Port Server LAN Adapter Kit	TC.32200.009
Acer Gigabit Quad Port Server LAN Adapter Kit	TC.32200.010
Acer 10 Gigabit Dual Port (DA) Server LAN Adapter Kit	TC.32200.012
Acer 10 Gigabit Single Port (SR) Server LAN Adapter Kit	TC.32200.014
Acer 10 Gigabit Single Port (LR) Server LAN Adapter Kit	TC.32200.013
Acer 10 Gigabit Dual Port (SR) Server LAN Adapter Kit	TC.32200.015
Acer Gigabit Dual Port Server LAN Adapter Kit - Intel based	TC.32200.022
Acer Gigabit Quad Port Server LAN Adapter Kit - Intel based	TC.32200.023
Acer 10 Gigabit Dual Port (DA) Server LAN Adapter Kit - Intel based	TC.32200.024
Acer Operating Systems	
Windows Server Enterprise 2008	
Acer ROK Windows SVR 2008 R2 Enterprise (64bit,25Clt,EN)	TC.34400.035
Acer ROK MICROSOFT Win SVR 2008 64bit Ent R2 10 Clt EN W/COA W/CD/DVD ACER 1-8CPU	TC.34400.034
Windows Server Standard 2008	
Acer ROK MICROSOFT Win SVR 2008 64bit Std R2 5 Clt EN W/COA W/CD/DVD ACER 1-4CPU	TC.34400.033
Microsoft CAL's	
Acer Windows Server 2008 CAL EN (5 Device)	TC.34400.061
Acer Windows Server 2008 CAL EN (5 User)	TC.34400.063
Acer Services	
Acer Upgrade from 3 year Parts/1 year Labor/1 year On-Site to 3 years Parts/Labor/On-site service (AR360/AR380)	146.AD314.003
Acer Upgrade from 3 year Parts/1 year Labor/1 year On-Site to 3 years Parts/Labor/On-site service w/4hr response (AR360/AR380)	146.AD316.006

Acer Upgrade from 3 year Parts/1 year Labor/1 year On-Site to 5 years Parts/Labor/On-site service w/4hr response (AR360/AR380)	146.AD317.006